IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Schwartzman et al.	Attorney Docket No.: CISCP236/ 4198
Application No.: 09/965,525	Examiner: Sahar Baig
Filed: September 26, 2001	Group: 2623
Title: METHODS AND APPARATUS FOR ALLOWING COMPONENT INTERCHANGEABILITY	Confirmation No: 3761

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Signed: /Latonia Ervin/
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

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Independent claims 1, 10, 18, 23, 27, and 33 were rejected under 35 U.S.C. 103(a) as being unpatentable over Brown (USP No. 2002/0141544) in view of Stetson (US 6,552,614) and further in view of Miller (USP No. 2003/0046690). The Examiner argues that Browns fails to explicitly describe the memory as nonvolatile, but Stetson describes a cable modem having a non-volatile memory. The Examiner also argues that the combination of Brown and Stetson fails to teach configuring the operating system to operate the replacement component, but states that Miller describes a CMTS system operable to replace components [switching tuners 0046].

In the previous Office Action Response, the Applicants argued that Miller does not anywhere teach or suggest configuring the operating system to operate the replacement component. A component may be a tuner. Miller only describes changing channels, not components. The Examiner responded by arguing two points. First, the Examiner argues that Miller "discloses a technique to switch (replace) a tuner (component) of a set top box. Second, the Examiner argues that data or graphics stored in a storage unit are interpreted as replacement

components and Miller teaches "an alternate method of storing data or graphics in storage unit 35 for later retrieval.

With regard to the Examiner's first point, Miller does refer to a technique to "switch a tuner," but the reference to "switch a tuner" is actually changing a channel and not replacing the actual tuner with another tuner.

Miller states "[0046] Another technique is to switch a tuner of the set top box 32 or the ancillary device 38 to a specific channel of the communication network 28 where substitute advertisements are carried. This channel switching may be performed by software in one embodiment, in response to identification of advertisements that are to be swapped (or identification of their triggers). Alternatively or in addition to channel switching, data or graphics stored in the storage unit 35 may be retrieved and then overlaid over the broadcast advertisement after the broadcast advertisement is identified as one that is to be replaced. Picture-in-picture arrangements can also be used to provide this overlay. The overlay information can include local advertisements, substitute URL addresses, screen prompts, and so on."

Independent claims recite "configuring the operating system to operate the replacement component and report power characteristics to the upstream device." However, Miller only appears to describe tuners that switch channels. There is not substitute tuner or replacement tuner mentioned anywhere or any mechanisms description how such a tuner could be replaced. By contrast, Miller expressly describes "channel switching" in the context of the technique to switch the tuner.

With regard to the Examiner's second point, Miller does describe data and graphics "stored in the storage unit 35" that may be "overlaid over the broadcast advertisement after the broadcast advertisement is identified as one that is to be replaced." The Examiner is claiming that component being replaced can be broadly construed to mean the broadcast advertisement being replaced.

However, the claims recite "obtaining parameter information comprising power characteristics of the component from nonvolatile memory; configuring the operating system to operate the component and report power characteristics to an upstream device; obtaining parameter information comprising power characteristics of a replacement component from

nonvolatile memory; configuring the operating system to operate the replacement component and report power characteristics to the upstream device." Replacement data and graphics do not have any power characteristics obtained from nonvolatile memory. Furthermore, the operating system is not configured to operate the data and graphics and report power characteristics to an upstream device as recited in the claims. Data and graphics interpreted as a component in the context of the claims does not make any sense. It is true that a component does not necessarily have to be a tuner and should be construed as being more broad than simply a tuner. However, component can not be so broadly interpreted to cover data and graphics as to render the claims meaningless.

Furthermore, although Stetson describes a non-volatile memory, there is no motivation in Stetson to combine Stetson with the techniques and the mechanisms of the present application. Stetson also does not teach or suggest writing any characteristic information of a component such as a tuner into nonvolatile memory.

According to various embodiments, "In order to accommodate a new or different tuner, a new version of the operating system typically has to be introduced with the new hard coded characteristic information. However, introducing a new operating system version raises compatibility and compliance issues. Techniques of the present invention provide that a memory associated with the cable modem component, such as a tuner, is provided in a cable modem. According to various embodiments, the memory is a nonvolatile memory. As will be appreciated by one of skill in the art, nonvolatile memory is a general term including all forms of solid-state memory that do not have the memory contents periodically refreshed. Some examples of nonvolatile memory are read-only memory and flash memory. Another example of nonvolatile memory is random access memory that is powered with an independent power source such as a battery.

Characteristic information associated with the cable modem component such as an RF tuner, can be written onto a nonvolatile memory. In one example, the cable modem operating system can be configured to acquire tuner characteristic information from the nonvolatile memory. The operating system no longer needs to be hard coded with specific tuner characteristics or supplemented with additional code such as a tuner specific device driver. When a new tuner is selected for use with a current operating system, a nonvolatile memory associated with the tuner can be programmed and provided in the cable modem along with the

tuner. A more general device driver can be used. No new version of the operating system is required. The existing version of the operating system can access characteristic information associated with the tuner by reading the nonvolatile memory. Compliance and compatibility concerns are addressed by maintaining the same version of the operating system, without new software additions such as new device drivers." (page 6, line 17 – page 7, line 9)

Brown describes a system connected to a CATV headend. "Controller 60 employs the process shown in FIG. 2 for initializing system 12 of FIG. 1 and for selecting an initial power transmission level for transmitting of signals from system 12 to the CATV head end. Specifically, FIG. 2 shows a series of operational states through which the FIG. 1 DOCSIS compliant cable modem system 12 progresses during startup to become fully operational. Upon application of power to modem system 12 in step 250 of FIG. 2, controller 60 executes bootloader software uploaded from flash memory within unit 60 to set all modem components to their initial power on condition." [0016] Although bootloader software is uploaded from flash memory, it is unclear here whether parameter information comprising power characteristics of the component is obtained from nonvolatile memory as is variably recited in the independent claims. Brown only describes bootloader software uploaded but does not describe parameter information comprising power characteristics obtained from nonvolatile memory.

More specifically, Brown describes "downloading a Configuration File for modem system 12 from a remote TFTP (Trivial File Transfer Protocol) server using TFTP. The configuration file includes SNMP compatible data conveying threshold values defining warning zones near the minimum and/or maximum operational limits for the power level to be used in transmitting signals from system 12 to the CATV head end." [0019] Other values or default values are believed associated with an operating system and are provided in system memory, which is volatile memory. This is believed to be the conventional system described in the present application. In conventional systems, an operating system is hardcoded with default values. Default values are not stored on a nonvolatile memory.

In light of the above remarks above, all independent claims and associated dependent claims are believed allowable for at least the reasons noted above. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Respectfully submitted,
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APPENDIX - IN THE CLAIMS

1. (Previously Presented) A method, comprising:

identifying a component;

obtaining parameter information comprising power characteristics of the component from nonvolatile memory;

configuring the operating system to operate the component and report power characteristics to an upstream device;

obtaining parameter information comprising power characteristics of a replacement component from nonvolatile memory;

configuring the operating system to operate the replacement component and report power characteristics to the upstream device.

2. (Previously Presented) The method of claim 1, wherein the operating system is a cable modem operating system.

3. (Original) The method of claim 2, wherein the component is a tuner.

4. (Original) The method of claim 3, wherein operating the component comprises varying RF transmission power.

5. (Original) The method of claim 3, wherein parameter information comprises IF output information.

6. (Original) The method of claim 3, wherein parameter information comprises band crossover frequency information.

7. (Original) The method of claim 3, wherein parameter information comprises IF AGC Gain Threshold information.

8. (Original) The method of claim 3, wherein parameter information comprises RF AGC Gain Threshold information.

9. (Original) The method of claim 3, wherein parameter information comprises component address information.

10. (Previously Presented) A system, comprising:

means for identifying a component;

means for obtaining parameter information comprising power characteristics of the component from nonvolatile memory;

means for configuring the operating system to operate the component and report power characteristics to an upstream device;

means for obtaining parameter information comprising power characteristics of a replacement component from nonvolatile memory;

means for configuring the operating system to operate the replacement component and report power characteristics to the upstream device.

11. (Original) The system of claim 10, wherein the component is a cable modem tuner.

12. (Original) The system of claim 11, wherein operating the component comprises varying RF transmission power.

13. (Original) The system of claim 11, wherein parameter information comprises IF output information.

14. (Original) The system of claim 11, wherein parameter information comprises band crossover frequency information.

15. (Original) The system of claim 11, wherein parameter information comprises IF AGC Gain Threshold information.

16. (Original) The system of claim 11, wherein parameter information comprises RF AGC Gain Threshold information.

17. (Original) The system of claim 11, wherein parameter information comprises component address information.

18. (Previously Presented) A computer program product, comprising:

computer code for identifying a component;

computer code for obtaining parameter information comprising power characteristics of the component from nonvolatile memory;

computer code for configuring the operating system to operate the component and report power characteristics to an upstream device.

computer code for obtaining parameter information comprising power characteristics of a replacement component from nonvolatile memory;

computer code for configuring the operating system to operate the replacement component and report power characteristics to the upstream device.

19. (Previously Presented) The computer program product of claim 18, wherein the operating system is a cable modem operating system.

20. (Original) The computer program product of claim 19, wherein the component is a tuner.

21. (Original) The computer program product of claim 20, wherein operating the component comprises varying RF transmission power.

22. (Original) The computer program product of claim 20, wherein parameter information comprises IF output information.

23. (Original) The computer program product of claim 20, wherein parameter information comprises band crossover frequency information.

24. (Original) The computer program product of claim 20, wherein parameter information comprises IF AGC Gain Threshold information.

25. (Original) The computer program product of claim 20, wherein parameter information comprises RF AGC Gain Threshold information.

26. (Original) The computer program product of claim 20, wherein parameter information comprises component address information.

27. (Previously Presented) A method, comprising:

obtaining parameter information associated with a tuner from a nonvolatile memory;

characterizing the tuner using the parameter information, wherein the characterization allows the cable modem operating system to account for power characteristics and drive the tuner to transmit at a desired power level;~~.~~

obtaining parameter information associated with a replacement tuner from the nonvolatile memory;

characterizing the tuner using the parameter information, wherein the characterization allows the cable modem operating system to account for power characteristics and drive the replacement tuner to transmit at a desired power level.

28. (Original) The method of claim 27, wherein the nonvolatile memory is flash memory.

29. (Previously Presented) The method of claim 28, wherein the tuner is a cable modem RF tuner.

30. (Previously Presented) A cable modem comprising:

a tuner;

a nonvolatile memory operable to store power characteristics associated with the tuner;

a volatile memory operable to temporarily maintain power characteristics;

a processor operable to run a cable modem operating system, wherein the cable modem operating system uses the power to drive the tuner to transmit at a desired power level.

31. (Previously Presented) The cable modem of claim 30, wherein the nonvolatile memory is flash memory.

32. (Previously Presented) The cable modem of claim 31, wherein the tuner is a cable modem RF tuner.

33. (Previously Presented) A cable modem comprising:

a tuner;

nonvolatile memory operable to store parameter information associated with the tuner;

a volatile memory operable to temporarily maintain parameter information;

a processor operable to run an operating system, wherein the operating system ~~to~~ reports power characteristics to an upstream device.

34. (Original) The apparatus of claim 33, wherein the nonvolatile memory is flash memory.

35. (Previously Presented) The apparatus of claim 34, wherein the tuner is a cable modem RF tuner.

36. (Original) The apparatus of claim 35, wherein parameter information comprises IF output information.

37. (Original) The apparatus of claim 35, wherein parameter information comprises band crossover frequency information.

38. (Original) The apparatus of claim 35, wherein parameter information comprises IF AGC Gain Threshold information.

39. (Original) The apparatus of claim 35, wherein parameter information comprises component address information.

40. (Previously Presented) The apparatus of claim 33, wherein the operating system is further operable to drive the tuner by varying RF transmission power.